

### ABSTRACT

A solid catalyst component comprises a transition metal-containing metallocene compound, a non-cyclopentadienyl transition metal compound, a magnesium compound and a polymeric material which acts as a support. The catalyst component is combined with co-catalyst organoaluminum compound or a mixture of organoaluminum compounds to provide a catalyst composition useful for olefin polymerization, e.g., to produce linear low, medium and high density polyethylenes or copolymerization of ethylene with alpha-olefins. Product polyolefin polymers have a varied range of molecular weight distributions.

The catalyst composition is prepared by a process comprising combining polymer support particles, magnesium compound, transition metal-containing metallocene compound, and non-cyclopentadienyl transition metal compound to provide a solid catalyst component, and, combining the solid catalyst component with a cocatalyst compound to provide a polyolefin polymerization catalyst composition.